***Exercise 1 –*** *Write a user defined function ‘int reverse(int)’ to reverse any given number. An example would be as follows:*

Enter any number: 197

Reverse of 197 is 791.

*Program –*

#include<stdio.h>

int reverse(int a)

{

int temp=a,remainder=0,reverse=0;

while(temp!=0)

{

remainder=temp%10;

temp/=10;

reverse=(reverse\*10)+remainder;

}

printf("Reverse of %d is %d.",a,reverse);

}

int main()

{

int a;

printf("Enter any number: ");

scanf("%d",&a);

reverse(a);

return 0;

}

*Output –*

Enter any number: 197

Reverse of 197 is 791.

***Exercise 2 –*** *Write a user defined function ‘float power(int, int)’ to calculate MN, where M & N will be given by the user. An example would be as follows:*

Enter base & power: 2 -3

Result: 0.125

Enter base & power: 2 3

Result: 8

Enter base & power: 2 0

Result: 1

*Program –*

#include<stdio.h>

#include<math.h>

float power(int M, int N)

{

float result,deno;

if(N<0)

{

deno=pow(M,(-N));

result=(1/deno);

printf("Result: %0.3f",result);

}

else if(N>0)

{

result=pow(M,N);

printf("Result: %0.0f",result);

}

else

{

result=1;

printf("Result: %0.0f",result);

}

}

int main()

{

int N,M;

printf("Enter base & power: ");

scanf("%d%d",&M,&N);

power(M,N);

return 0;

}

*Output –*

Enter base & power: 2 -3

Result: 0.125

Enter base & power: 2 3

Result: 8

Enter base & power: 2 0

Result: 1

***Exercise 3–*** *Write two user defined function ‘int gcd(int, int)’ and ‘int gcd(int, int)’ to find the GCD and LCM of two number, respectively. An example would be as follows:*

Enter any number: 18 24

GCD of 18 & 24 is 6

LCM of 18 & 24 is 72

*Program –*

#include<stdio.h>

int gcd(int a,int b)

{

int num,deno,remainder,gcd;

if(a>b)

{

num=a; deno=b;

}

else

{

num=b; deno=a;

}

remainder = num%deno;

while(remainder!=0)

{

num=deno;

deno=remainder;

remainder=num%deno;

}

gcd=deno;

return gcd;

}

int lcm(int a,int b)

{

int lcm;

lcm = a\*b / gcd(a,b);

printf("GCD of %d & %d is %d\n",a,b,gcd(a,b));

printf("LCM of %d & %d is %d\n",a,b,lcm);

}

int main()

{

int a,b;

printf("Enter any number: ");

scanf("%d%d",&a,&b);

lcm(a,b);

return 0;

}

*Output –*

Enter any number: 18 24

GCD of 18 & 24 is 6

LCM of 18 & 24 is 72

***Exercise 4–*** *Write a user defined function ‘int convert(int)’ to reverse any given number. An example would be as follows:*

Enter binary number: 1010

Equivalent decimal number is 10.

*Program –*

#include<stdio.h>

#include<math.h>

int convert(int binary)

{

int temp=binary,remainder=0,decimal=0,i=0;

while(temp!=0)

{

remainder=temp%10;

temp/=10;

decimal=decimal+remainder\*pow(2,i);

i++;

}

printf("Equivalent decimal number is %d.",decimal);

}

int main()

{

int binary;

printf("Enter binary number: ");

scanf("%d",&binary);

convert(binary);

return 0;

}

*Output –*

Enter binary number: 1010

Equivalent decimal number is 10.